

Main material
GFRPP

**A worldwide best-seller,
our high-quality compact
magnetic drive pumps**



A worldwide best-seller, our high-quality compact magnetic drive pumps

The MD series leak-free compact magnetic pumps are a worldwide best-seller and are used in medical equipment, analyzers, constant-temperature baths and surface treatment equipment for chemical feeding.



Leak free

Magnetic drive seal-less pumps are free from leakage problems and the need for seal replacement. This feature and their compact nature make them ideal for built-in applications.



Extensive product range

The MD series comprises 50 models. The high-head type (MD-Z), the high flow type (MD-X) and threaded connection type (MD-M) are available as well as a standard type. The MD series offers the largest selection in the world.



MD-6K

MD-10K

MD-6•10



- Max. Capacity **5.5 - 11** L/min
- Max. Head **1.0 - 2.1** m



MD-15R



MD-20R



MD-30R

MD-15•20•30•40

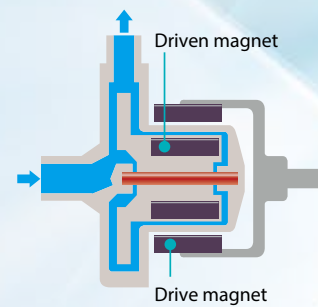


- Max. Capacity **10 - 75** L/min
- Max. Head **1.8 - 11.5** m



Operating Principle

The centrifugal pump is driven by a pair of magnets which are incorporated in the impeller and motor shaft. The sealless pump structure eliminates shaft seals such as conventional mechanical seals because the pump chamber is shielded by the casings and the impeller is operated by the magnets. The combined coupling torque of the drive magnet and impeller magnet gives sufficient driving power against the motor torque.



High corrosion-resistance

GFRPP (Glass fiber reinforced polypropylene) wet ends of the MD series handle a wide range of chemicals.



Ease of maintenance

The pump unit is comprised of a small number of integrated parts, so maintenance is greatly simplified.



MD-40R



MD-55R



MD-70R



MD-100R

MD-55·70·100

GFRPP

- Max. Capacity **40 - 135 L/min**
- Max. Head **5.6 - 14.3 m**

Extensive product range

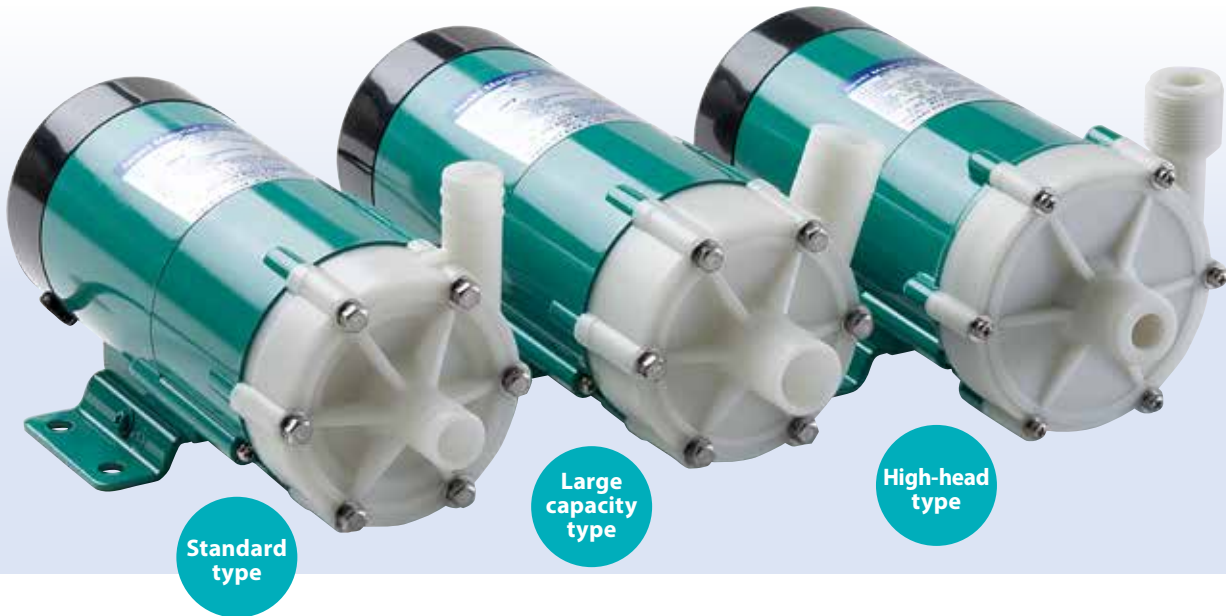
Ease of maintenance

The MD series has GFRPP wet ends. Hose connections, thread connections and flange connections (only 70^{Note}.100 size) are available. A large selection of models offer a wide flow range of 8.0-135L/min.

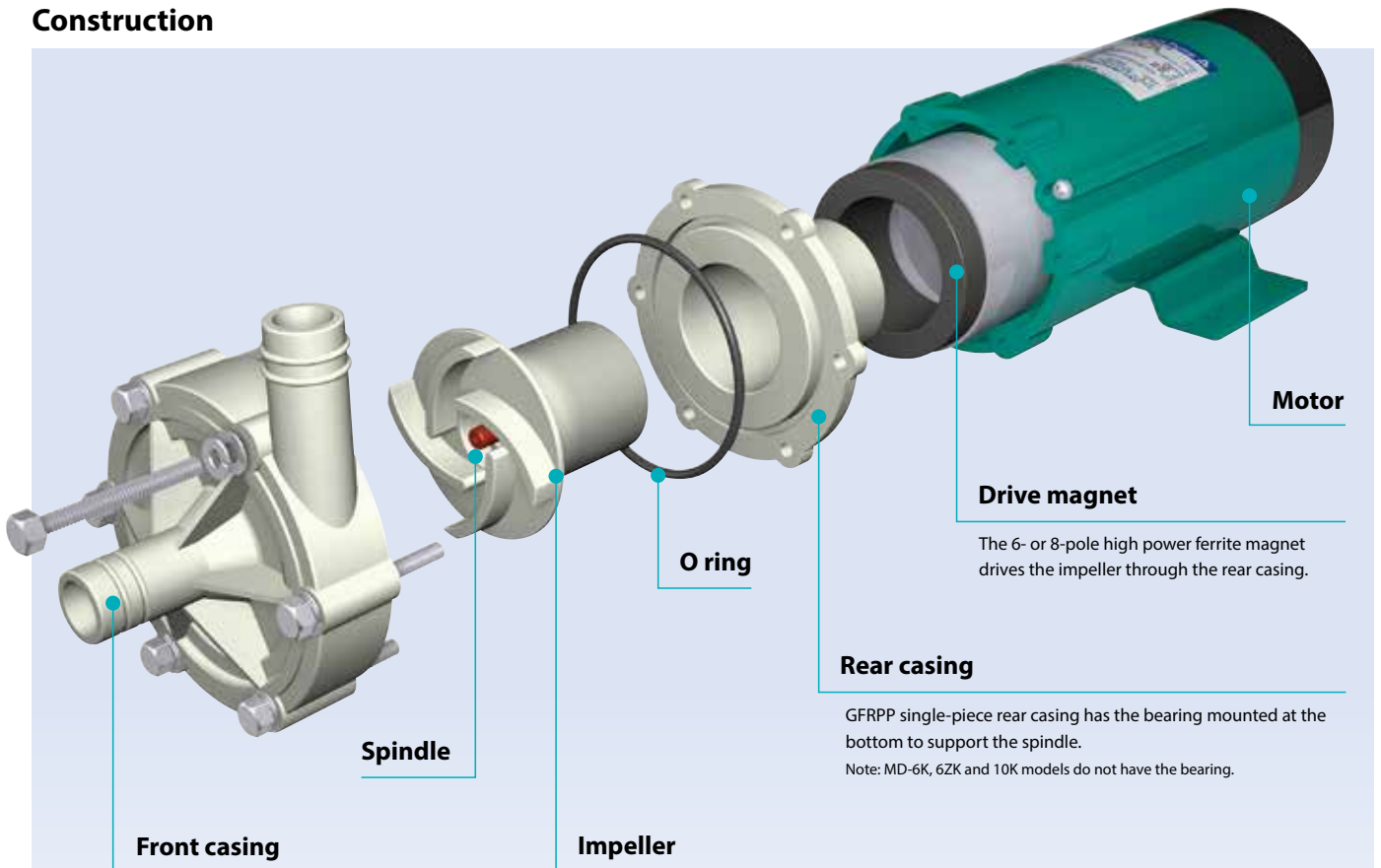
Note: For MD-70 size, MD-70RM type only.

Outline of the series

Main Material	Models	Max. Capacity (l/min)								Max. Head (m)				Limit of specific gravity
		20	40	60	80	100	120	140	5	10	15	20		
GFRPP	MD-6K Standard type	8.0								1.0				1.2
	MD-6ZK High head type	5.5								2.1				1.1
	MD-10K Standard type	11								1.5				1.1
	MD-15R Standard type	16								2.4				1.3
	MD-20R Standard type	27								3.1				1.1
	MD-20RX Large capacity type	46								1.8				1.3
	MD-20RZ High head type	10								4.6				1.1
	MD-30R Standard type	32								3.8				1.3
	MD-30RX Large capacity type	62								2.9				1.1
	MD-30RZ High head type	15								8.0				1.0
	MD-40R Standard type	45								4.6				1.1
	MD-40RX Large capacity type	75								3.3				1.1
	MD-40RZ High head type	22								10				1.0
	MD-40RZ-5	11								11.5				1.0
	MD-55R Standard type	60								5.6				1.2
	MD-55R-5	70								8.2				1.2
	MD-70R Standard type	86								6.7				1.0
	MD-70RZ High head type	40								14.3				1.0
	MD-100R Standard type	120								8.6				1.2
	MD-100R-5	135								11.7				1.1



Construction



Motor

Drive magnet

The 6- or 8-pole high power ferrite magnet drives the impeller through the rear casing.

Rear casing

GFRPP single-piece rear casing has the bearing mounted at the bottom to support the spindle.

Note: MD-6K, 6ZK and 10K models do not have the bearing.

O ring

Impeller

The ferrite magnet is encapsulated into the impeller. For rotating spindle models, an alumina ceramic spindle is integrally molded with the impeller.

Open, semi-open or closed type impellers can be selected according to performance requirements.

Note: MD-6K, 6ZK and 10K models use a fixed spindle design.

Spindle

Front casing

Hose or thread connections can be selected according to application. Also union joints can be installed on threaded connection models.

Note: MD-6K, 6ZK and 10K models do not have thread connection type.



Hose connection type

Thread connection type



Open type

Semi-open type

Closed type

MD-6K·6ZK·10K GFRPP

- Max. Capacity **5.5 - 11 L/min**
- Max. Head **1.0 - 2.1 m**



MD-6K



MD-10K

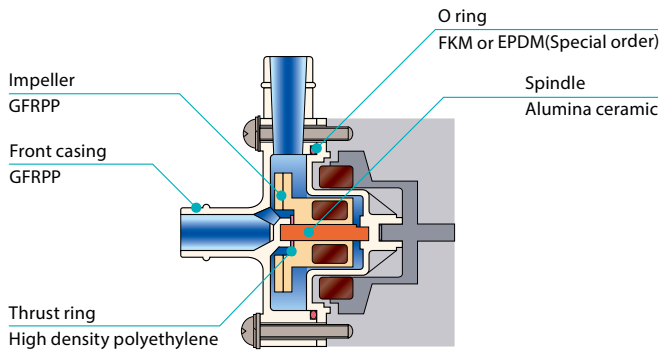
Specifications (50Hz)

Model	Hose connection		Max. Capacity (L/min)	Max. Head (m)	S.G.	Output (W)	Input (W)	Power source	Mass (kg)
	Inlet (mm)	Outlet (mm)							
MD-6K	Ø14	Ø14	8.0	1.0	1.2	5	12	220 - 240V Single phase	0.9
MD-6ZK			5.5	2.1	1.1		13		
MD-10K			11	1.5	1.1		13		

• Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1.0 S.G.) • Ambient temperature: 0 - 40°C
 • Motor type: Capacitor-run induction motor • MD-6K, 6ZK and 10K do not have thread connection type.

Construction and materials

Illustration shows model MD-6K



- GFRPP Glass fiber reinforced polypropylene
- FKM Fluorine rubber
- EPDM Ethylene propylene rubber

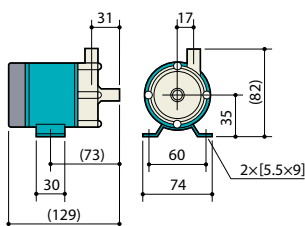
Pump identification

MD - 6 ZK - E N
 1 2 3

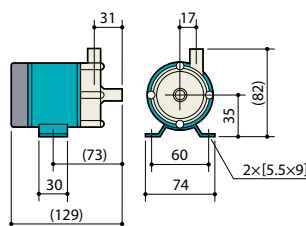
- 1 Pump size
6, 10
- 2 Type
K: Standard type
ZK: High head type
- 3 Material of O ring
No mark: FKM
E: EPDM (Special order)

Dimensions (mm)

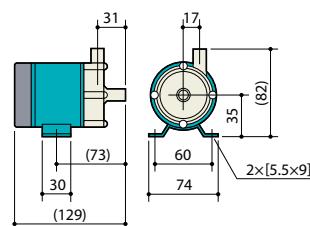
MD-6K



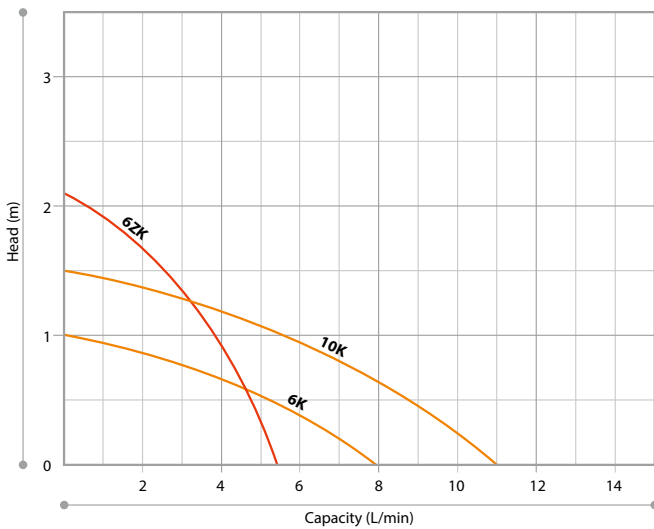
MD-6ZK



MD-10K



Performance curves



MD-6•MD-6Z•MD-10



Specifications (50/60Hz)

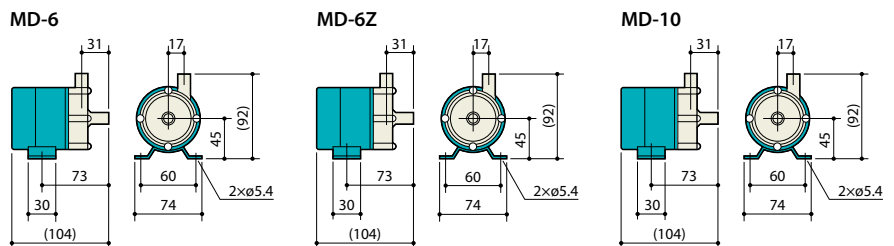
Model	Hose connection		Max. Capacity (L/min)	Max. Head (m)	S.G.	Output (W)	Input (W)	Power source	Mass (kg)
	Inlet (mm)	Outlet (mm)							
MD-6	14	14	8.0 / 9.0	1.0 / 1.4	1.2	3 / 3	22 / 22	100V Single phase	0.9
MD-6Z			5.5 / 6.0	2.1 / 2.7	1.1				
MD-10			11 / 12	1.5 / 2.1					

- Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1.0 S.G.)
- Ambient temperature: 0 - 40°C • Motor type: Shaded pole motor • MD-6, 6Z and 10 do not have thread connection type.

Pump identification

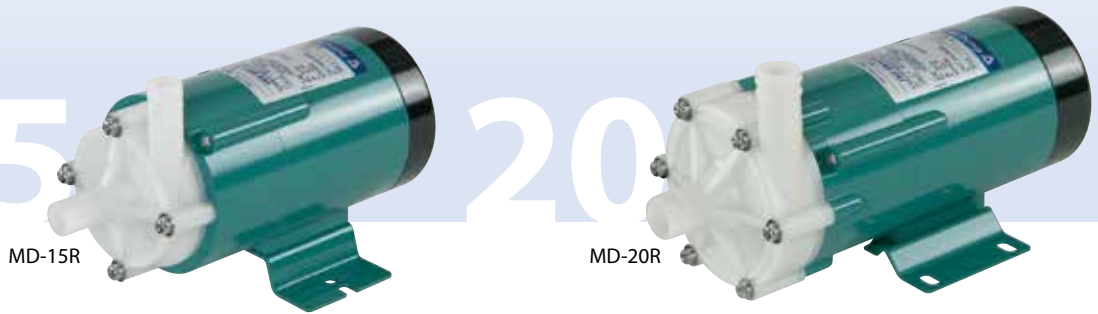
- MD - 6 Z**
- 1 2
- 1 Pump size
6, 10
- 2 Type
No mark : Standard type
Z : High head type

Dimensions (mm)



MD-15·20·30·40 GFRPP

- Max. Capacity **10 - 75 L/min**
- Max. Head **1.8 - 11.5 m**



Specifications (50Hz)

Model	Hose connection R · RZ · RX		Thread connection RM · RZM · RXM		Max. Capacity (L/min)	Max. Head (m)	S.G.	Output (W)	Input (W)	Power source	Mass (kg)
	Inlet(mm)	Outlet(mm)	Inlet/Outlet	Union ^{Note 1}							
MD-15R(M)	Ø14	Ø14	G3/4	13A	16	2.4	1.3	10	26	220V - 240V Single phase	1.6
MD-20R(M)	Ø18	Ø17	G3/4	16A	27	3.1	1.1	20	40		2.0
MD-20RX(M)	Ø26	Ø26	G1	20A	46	1.8	1.3				
MD-20RZ(M)	Ø17.5	Ø17	G3/4	13A	10	4.9	1.1	45	60		3.5
MD-30R(M)	Ø20	Ø20	G3/4	16A	32	3.8	1.3				
MD-30RX(M)	Ø26	Ø26	G1	20A	62	2.9	1.1				
MD-30RZ(M)	Ø17.5	Ø17	G3/4	13A	15	8.0	1.0	65	70		4.0
MD-40R(M)	Ø20	Ø20	G3/4	16A	45	4.6	1.1				90
MD-40RX(M)	Ø26	Ø26	G1	20A	75	3.3		1.0	85		
MD-40RZ(M)	Ø20	Ø20	G3/4	16A	22	10					
MD-40RZ-5(M)					11	11.5					

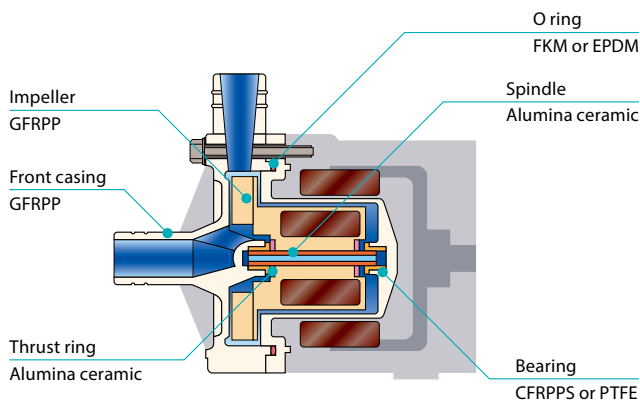
• Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1.0 S.G.) • Ambient temperature: 0 - 40°C

• Motor type: Capacitor-run induction motor

Note 1: The union field shows the nominal diameter of the applicable VP vinyl chloride hose. Heat resistance of the standard union is 0 - 55°C and that of the heat resistant union is 0 - 80°C.

Construction and materials

Illustration shows model MD-30R



- **GFRPP** Glass fiber reinforced polypropylene
- **CFRP/PS** Carbon fiber reinforced polyphenylene sulfide
- **PTFE** Polytetrafluoroethylene ("Teflon", etc.)
- **FKM** Fluorine rubber
- **EPDM** Ethylene propylene rubber

Pump identification

MD - 30 RZ M - 220 E N

1 2 3 4 5

- Pump size**
15, 20, 30, 40
- Type**
R : Standard type
RZ-(5) : High head type
RX : Large capacity type
- Connection**
No mark : Hose type
M : G thread connection
- Motor**
220 : 220V - 240V single phase
- Material of O ring**
No mark : FKM (Standard)
E : EPDM (Special order)

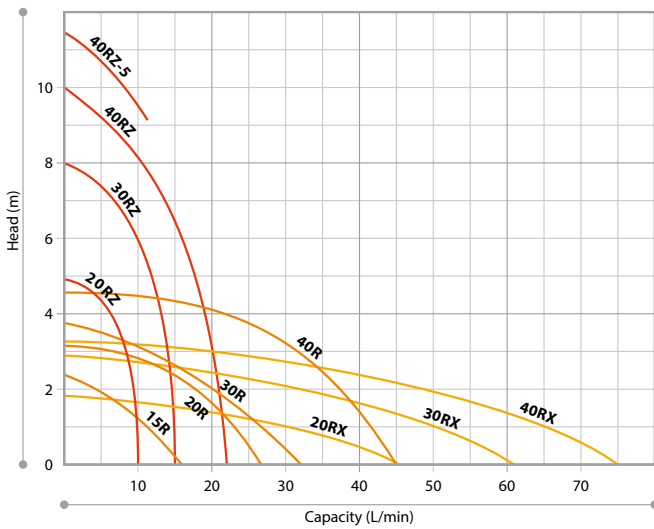


MD-30R



MD-40R

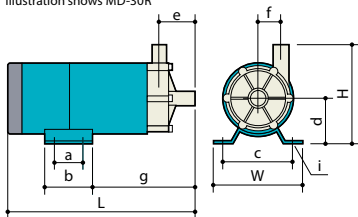
Performance curves (50Hz)



Dimensions (mm)

MD-15R(M)-20R(M)-30R(M)-40R(M)

Illustration shows MD-30R

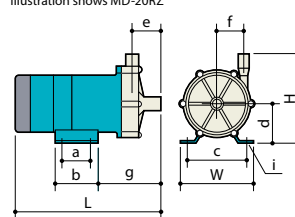


Model	W	H	L	a	b	c	d	e	f	g	i
MD-15R(M)	95	109 (114)	179.5 (179)	—	50	68	55	39 (38.5)	21.5	92 (91.5)	2 × Ø5.6
MD-20R(M)	85	115 (116.3)	208.5 (203)	30	50	68	55	38.5 (33)	28.5	101.5 (96)	4 × [6×10]
MD-30R(M)	120	130	248	40	64	100	60	48	31	137	4 × Ø9
MD-40R(M)			244							129	

- Dimension of the () inside are thread connection type.
- The number is rounded up to the nearest whole number.

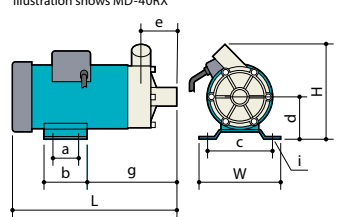
MD-20RZ(M)-30RZ(M)-40RZ(M)

Illustration shows MD-20RZ



MD-20RX(M)-30RX(M)-40RX(M)

Illustration shows MD-40RX



Model	W	H	L	a	b	c	d	e	f	g	i	
MD-20RZ(M)	85	125	211	30	50	68	55	39.5	38.5	104	4 × [5.7×8]	
MD-30RZ(M)			130	230								120
MD-40RZ(M)	120		150	235	40	64	100	60	38.5	44.5	128	4 × Ø9
MD-40RZ-5(M)												
MD-20RX(M)	85	119 (122)	220	30	50	68	55	46.5		118	4 × [5.7×8]	
MD-30RX(M)			137 (140)	254	40	64	100	60	50			
MD-40RX(M)	120		250							143	4 × Ø9	

- Dimension of the () inside are thread connection type.
- RZ type (Hose connection) and RZM type (Thread connection type) are the same dimensions.
- The number is rounded up to the nearest whole number.

MD-55·70·100

GFRPP

- Max. Capacity **40 - 135 L/min**
- Max. Head **5.6 - 14.3 m**



MD-55R

Specifications (50Hz)

Model	Hose connection		Thread connection		Max. Capacity (L/min)	Max. Head (m)	S.G.	Output (W)	Input (W)	Power source		Mass (kg)
	R · RZ		RM · RZM							Single phase	Three phase	
	Inlet(mm)	Outlet(mm)	Inlet/Outlet	Union ^{Note1}								
MD-55R(M)	Ø26	Ø26	G1	20A	60	5.6	1.2	90	130	220V - 240V	-	5.4
MD-55R-5(M)					70	8.2		90	170			
MD-70R(M)					86	6.7		150	235			
MD-70RZ(M)	Ø20	Ø20	G3/4	16A	40	14.3	1.0	180	275		220V/380V 400V/440V	6.0
MD-100R(M)	Ø26	Ø26	G1	20A	120	8.6	1.2	260	245		8.5	
MD-100R-5(M)					135	11.7	1.1	260	365			

• Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1.0 S.G.) • Ambient temperature: 0 - 40°C

• Motor type: Capacitor-run induction motor

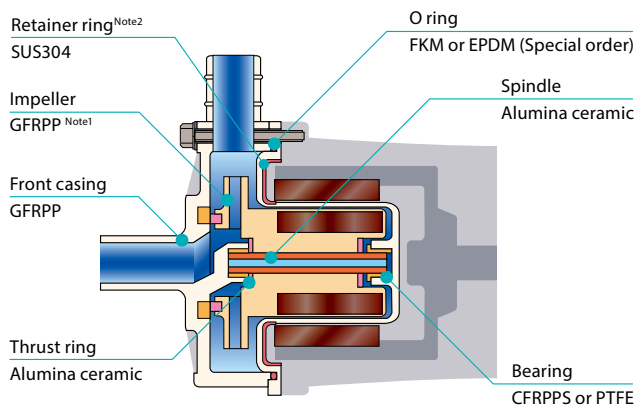
Note 1: The union field shows the nominal diameter of the applicable VP vinyl chloride hose. Heat resistance of the standard union is 0 - 55°C and that of the heat resistant union is 0 - 80°C.

Construction and materials

Illustration shows model MD-100R

Note 1: MD-70RZ / 100R is "CFRPP (carbon fiber reinforced polypropylene)".

Note 2: MD-70RZ/MD-100R only.



- GFRPP Glass fiber reinforced polypropylene
- CFRPPS Carbon fiber reinforced polyphenylene sulfide
- FKM Fluorine rubber
- EPDM Ethylene propylene rubber

Pump identification

MD - 100 R M

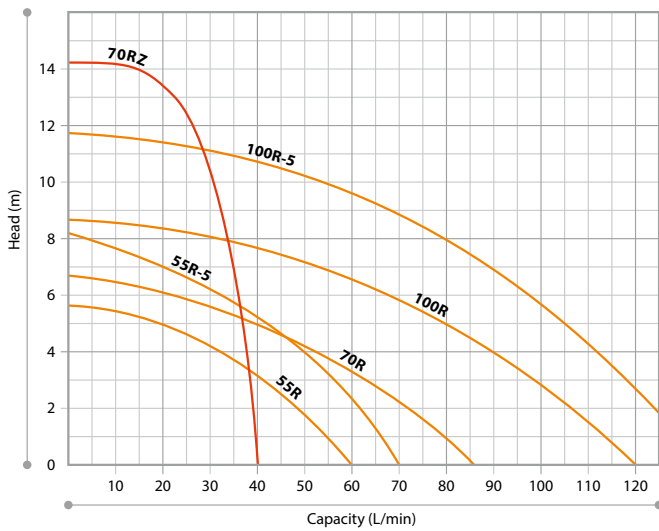
1 2 3

- Pump size
55, 70, 100
- Type
R : Standard type
R-5 : Standard type (Only 50Hz)
RZ : High head type (Only 70RZ)
- Connection
No mark : Hose type
M : G thread connection
MD-55R-5M, MD-100R-5M

• Specify the pump model and power specification at an inquiry phase.



Performance curves (50Hz)

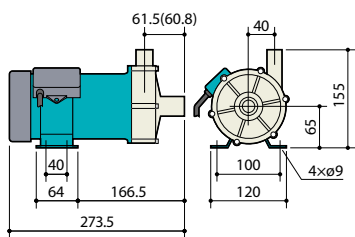


Dimensions (mm)

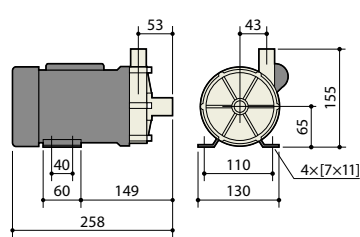
() : Thread connection type

MD-55R(M)-55R-5(M)

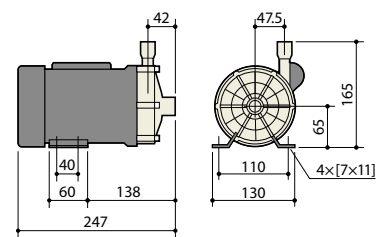
Illustration shows MD-55R



MD-70R(M)

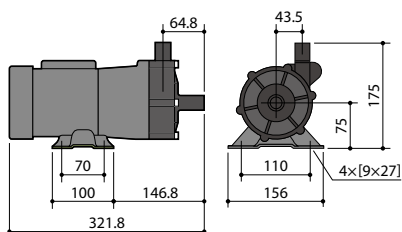


MD-70RZ(M)



MD-100R(M)-100R-5(M)

Illustration shows MD-100R



Special accessories

• Union joint

Special-purpose union joints are available to cope with three types (13mm, 16mm and 20mm dia.) of piping. Tight sealing O-rings are used to prevent thread damage caused by over-tightening.



Specifications

Model	13A	H13A	16A	H16A	20A	H20A
Material	PVC	HT-PVC	PVC	HT-PVC	PVC	HT-PVC
Range of temp.	0 - 55°C	0 - 80°C	0 - 55°C	0 - 80°C	0 - 55°C	0 - 80°C
Material of O ring	FKM or EPDM					

Please specify the type and the O-ring material at the time of arrangements.

• Self-priming chamber

Once fill up liquid, repriming is not required. It is very easy to use MD pump with self-priming chamber.



Specifications

Model	SC-4V	SC-4E	SC-7V	SC-7E
Material of O ring	FKM	EPDM	FKM	EPDM
Connection	G3/4		G1	
Suction limit	0.8m		1.2m	
Range of tank	0.8L		1.3L	
Applicable pump	MD-30RM-N, MD-40RM-N		MD-70RM	

Self-priming height depends on liquid temperature and consult us for more details. A union fitting is required for use.

Precautions for pump selection

- The performance curves shown in this catalog are data for fresh water at 20 °C. The maximum capacity is the capacity when the head is 0 m. The maximum head indicates the total head.
- The magnetic drive pump cannot be operated under a valve closed continuously. Be sure to secure the minimum capacity. The Minimum pump capacity = Maximum pump capacity x 0.1 (Please consult us for more details)
- Maximum allowable working pressure = Maximum pump head x 1.5 (Please consult us for more details.)
- The temperature range of the handling liquid is 0 to 80 °C. However, it depends on the conditions such as a heat cycle of the liquid to be handled. (Frozen liquid cannot be used.)

IWAKI CO., LTD. 6-6 Kanda-Sudacho 2-chome Chiyoda-ku Tokyo 101-8558 Japan TEL : (81)3 3254 2935 FAX : 3 3252 8892

IWAKI has global net work.
Please find your distributor location at

www.iwakupumps.jp

European Headquarter Germany	IWAKI Europe GmbH TEL: (49)2154 9254 0	TEL: (49)2154 9254 50	FAX: (49)2154 9254 48	U.S.A.	IWAKI America Inc. TEL: (1)508 429 1440	FAX: (1)508 429 1386
The Netherlands (Netherlands Branch)	IWAKI Europe GmbH TEL: (31)74 2420011	TEL: (31)74 2420011	FAX: (49)2154 9254 55	Brazil	IWAKI Do Brazil Comercio De Bombas Hidraulicas LTDA. TEL: (55)19 3244 5900	FAX: (55)19 3244 5900
Italy (Italy Branch)	IWAKI Europe GmbH TEL: (39)0445 561219	TEL: (39)0445 561219	FAX: (49)2154 9254 48	China (Shanghai)	IWAKI Pumps (Shanghai) Co., Ltd. TEL: (86)21 6272 7502	FAX: (86)21 6272 6929
Spain (Spain Branch)	IWAKI Europe GmbH TEL: (34)934 741 638	TEL: (34)934 741 638	FAX: (39)0445 569088	China (Hong Kong)	IWAKI Pumps Co., Ltd. TEL: (852)2607 1168	FAX: (852)2607 1000
Poland (East Europe Branch)	IWAKI Europe GmbH TEL: (48)12 347 0755	TEL: (48)12 347 0755	FAX: (34)934 741 638	China (Guangzhou)	GFTZ IWAKI Engineering & Trading Co., Ltd. TEL: (86)20 84350603	FAX: (86)20 84359181
Denmark	IWAKI Nordic A/S TEL: (45)48 242345	TEL: (45)48 242345	FAX: (48)12 347 0900	Singapore	IWAKI Singapore Pte Ltd. TEL: (65)6316 2028	FAX: (65)6316 3221
Finland	IWAKI Suomi Oy TEL: (358)10 201 0490	TEL: (358)10 201 0490	FAX: (48)12 347 0900	Indonesia (Indonesia Office)	IWAKI Singapore Pte Ltd. TEL: (62)21 6906606	FAX: (62) 21 6906612
Norway	IWAKI Norge AS TEL: (47)23 38 49 00	TEL: (47)23 38 49 00	FAX: (48)12 347 0900	Malaysia	IWAKim SDN. BHD. TEL: (60)3 7803 8807	FAX: (60)3 7803 4800
Sweden	IWAKI Sverige AB TEL: (46)8 511 72900	TEL: (46)8 511 72900	FAX: (48)12 347 0900	Korea	IWAKI Korea Co.,Ltd. TEL: (82)2 6238 4800	FAX: (82)2 6238 4801
Belgium	IWAKI Belgium N.V. TEL: (32)13 670200	TEL: (32)13 670200	FAX: (32)13 672030	Taiwan	IWAKI Pumps Taiwan Co., Ltd. TEL: (886)2 8227 6900	FAX: (886)2 8227 6818
France	IWAKI France S.A. TEL: (33)1 69 63 33 70	TEL: (33)1 69 63 33 70	FAX: (33)1 64 49 92 73	Thailand	IWAKI (Thailand) Co.,Ltd. TEL: (66)2 322 2471	FAX: (66)2 322 2477
				Australia	IWAKI Pumps Australia Pty Ltd. TEL: (61)2 9899 2411	FAX: (61)2 9899 2421

() Country codes

Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly. Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.

Legal attention related to export. Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control. Please be reminded that export license could be required when products are exported due to export control regulations of countries. The posting and copying from this catalogue without permission is not accepted firmly.